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Date: November 1, 2007

PETITION FOR CERTIFICATE OF CORRECTION		
	Attorney Docket	PRTS-041
	First Named Inventor	ZDEBLICK, MARK J.
	Patent Number	7,204,798
	Issue Date	April 17, 2007
Address to: Mail Stop Certificate of Correction Branch Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	10/764,127
	Filing Date	January 23, 2004
	Title: *"METHODS AND SYSTEMS FOR MEASURING CARDIAC PARAMETERS"*	

Sir:

Transmitted herewith for filing is a Certificate of Correction for the above-identified patent. Please correct the following:

In the Specification:

- In column 15-16 table 1: Delete 'performe' and replace with 'performed'.
- In column 15-16 table 1: Insert 'in' before the phrase "LVEDP".
- In column 17-18 table 1: Delete 'ressure' and replace with 'pressure'.
- In column 17-18 table 1: Delete 'Regurgitatio' and replace with 'Regurgitation'.

In The Claims:

- Claim 6 line 13: Delete 'head' and replace it with 'heart'.
- Claim 37 line 62: Delete 'head' and replace it with 'heart'
- Claim 41 line 13: Insert 'head' before the phrase 'heart'.
- Claim 43 line 24: Delete 'head' and replace it with 'heart'.
- Claim 65 line 15: Delete 'head' and replace it with 'heart'.

Attached herewith is a copy of the corresponding pages of the specification and a copy of the last amendment as filed September 20, 2006 to support our request for correction.

It is believed that no fee is due since the error was made by the Patent and Trademark Office. However, the Commissioner is hereby authorized to charge any fees under 37 C.F.R. § 1.20, which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-0815 order number PRTS-041.

Respectfully submitted,

BOZICEVIC, FIELD & FRANCIS LLP

Date: November 1, 2007

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO : 7,204,798

DATED : April 17, 2007

INVENTOR(S) : ZDEBLICK, MARK J., et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification:

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- Claim 43 line 24: Delete 'head' and replace it with 'heart'.
- Claim 65 line 15: Delete 'head' and replace it with 'heart'.

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PATENT NO. 7,204,798

No. of additional copies

Pressure Reserve	PR	d(LVESP) / d(LVEDP)	Marginal change in end systolic pressure due to a marginal change in end-diastolic pressure
Volume Reserve	VR	d(LVESV) / d(LVEDV)	Marginal change in end systolic volume due to a marginal change in end-diastolic volume
Cardiac Reserve	CR	d(CO)/d(LVEDP)	Marginal increase in cardiac output due to a marginal increase in LVEDP
Cardiac Reserve Index	CRI	d(CI)/d(LVEDP)	Cardiac Reserve normalized by Body Surface Area
Stroke Reserve	SR	d(SV)/d(LVEDP)	Marginal increase in stroke volume due to a marginal increase in LVEDP
Stroke Reserve Index	SRI	d(SVI)/d(LVEDP)	Stroke Reserve normalized by Body Surface Area
Myocardial Work	MyW	$\int_{dV/dt<0} Pdv - \int_{dV/dt>0} Pdv$	Work performed by myocardial tissue during a single cycle
Myocardial Work Moment	MyWM	$\int_{dV/dt<0} PVdv - \int_{dV/dt>0} PVdv$	Work moment performed by myocardial tissue during a single cycle
Myocardial Work Index	MyWI	MW / BSA	Myocardial work normalized by Body Surface Area
Myocardial Reserve	M_yR	d(MW)/d(LVEDP)	Marginal increase in myocardial reserve due to a marginal increase in LVEDP
Myocardial Reserve Index	M_yRI	d(MWI)/d(LVEDP)	Myocardial Reserve normalized by Body Surface Area
Stroke Work	SW	$SV * \left(\overline{AOP_{Systole}} - \overline{LVP_{Diastole}}\right)$	Hemodynamic work performed by the left ventricle during a single cycle
Stroke Work Index	SWI	SW/BSA	Stroke Work normalized by Body Surface Area
Stroke Work Reserve	SWR	d(SW) / d(LVEDP)	Marginal increase in Stroke Work due to a marginal increase in LVEDP
Stroke Work Reserve Index	SWRI	SWR / BSA	Stroke Work Reserve normalized by Body Surface Area
Systolic Ejection Period	SEP	Direct measurement	Time during which blood is ejected from LV into Aorta
Stroke Power	SP	SW / SEP	Power performed by heart against circulatory system
Stroke Power Index	SPI	SP / BSA	Stroke Power normalized by Body Surface Area

Stroke Power Reserve	SPR	d(SP) / d(LVEDP)	Marginal increase Stroke Power due to a marginal increase in LVEDP
Stroke Power Reserve Index	SPRI	SPR / BSA	Stroke Power Reserve normalized by body surface areas
Myocardial Power	MyP	MyW / SEP	Power performed by the myocardia during systole
Myocardial Power Index	MyPI	MyP / BSA	Myocardial Power normalized by body surface area
Myocardial Power Reserve	MyPR	d(MyP) / d(LVEDP)	Marginal increase in myocardial power due to a marginal increase in end diastolic pressure
Myocardial Power Reserve Index	MyPRI	MyPR / BSA	Myocardial Power reserve normalized by body surface area
Myocardial Power Requirement	MyPSV	MyP / SV	Power required to deliver unit stroke volume
Ejection contractility	EC	$\frac{P_2V_2 - P_1V_1}{(t_2 - t_1)\int_{t_1}^{t_2} Qdt}$	Instantaneous power over instantaneous stroke volume (units: dP/dt)
Cardiac Efficiency	CE	SW / M_YW	Efficiency of the heart in converting myocardial work into circulatory work
Cardiac Amplification	CA	d(SV) / d(LVEDV)	Marginal increase in stroke volume due to a marginal increase in LVEDV
Valvular Gradient	VG	ΔPmax	Maximum (during a cycle) pressure gradient across a valve
Valvular Gradient Reserve	VGR	d(VG)/d(LVEDP)	Increase in VG as a function of increase in LVEDP.
Valvular Area	VA	$0.11 * SV\sqrt{\Delta P}$	Standard calculation of valvular area using mean pressure gradient and mean flow rate
Valvular Area Reserve	VAR	d(VA) / d(LVEDP)	Increase in valvular area as a function of increase in LVEDP
Valvular Regurgitation	VR	$\int Q_{REGURGITATION}$	Cumulative regurgitant flow during a cycle
Valvular Regurgitation Reserve	VRR	d(VR) / d(LVEDP)	Increase in regurgitant flow as a function of increase in LVEDP

[0060] Some of the methods for measuring and calculating cardiac parameters according to principles of the present invention are described below. These methods are not an exhaustive

VIA ELECTRONIC FILING

AMENDMENT AND RESPONSE TO OFFICE ACTION UNDER 37 C.F.R. §1.111 Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450		
	Attorney Docket No.	PRTS-041 (PRO-3)
	Confirmation No.	6088
	First Named Inventor	ZDEBLICK, MARK
	Application Number	10/764,127
	Filing Date	January 23, 2004
	Group Art Unit	3766
	Examiner Name	Shevon Johnson
	Title: "METHOD AND SYSTEMS FOR MEASURING CARDIAC PARAMETERS"	

Sir:

This communication is responsive to the Office Action dated September 12, 2006 for which a three-month period for response was given making this response due on or before December 12, 2006.

AMENDMENTS

In the specification:

Please amend paragraph [0001] beginning on page 4 as follows:

[0001] The present application claims the priority benefit of U.S. Provisional Patent Application No. 60/442441 ~~(Attorney Docket No. 21308-000800US)~~, filed Jan. 24, 2003, the full disclosure of which is hereby incorporated by reference. The present application is related to U.S. Patent Application Nos.: **10/764,125** ~~10/_____ (Attorney Docket No. 21308-000710US)~~; and **10/764,429**~~10/_____ (Attorney Docket No. 21308-00111US)~~; both of which are filed concurrently with the present application, and both of which are hereby incorporated fully by reference.

In the drawings:

Please replace originally filed Figures 1 to 11 with the enclosed Figures 1 to 11 which include the phrase "Replacement Sheet" in the top margin of each figure.

In the Claims:

1. (Currently Amended) A method for measuring a cardiac performance parameter, the method comprising **repeating over a series of two or more consecutive heart cycles**:

causing a change in at least one of volume and pressure in a heart chamber at a selected time during a heart cycle;

measuring a change in at least one characteristic of the heart chamber which occurs in response to the change in at least one of volume and pressure; and

calculating at least one cardiac performance parameter based on a ratio of the measured change in the characteristic to the caused change.

2. (Original) A method as in claim 1, wherein causing the change comprises introducing a volume of fluid into the heart chamber during diastole.

3. (Original) A method as in claim 2, wherein introducing the volume of fluid comprises releasing the fluid within the heart chamber via one or more apertures in a catheter positioned in the chamber.

4. (Original) A method as in claim 2, wherein introducing the volume of fluid comprises inflating an expandable balloon coupled with a catheter positioned in the heart chamber.

5. (Original) A method as in claim 4, wherein inflating the balloon comprises: inflating the balloon during systole of the heart; and deflating the balloon during diastole of the heart immediately following the systole.

6. (Original) A method as in claim 4, wherein inflating the balloon comprises: inflate the balloon during diastole of the heart; and deflating the balloon during systole of the heart immediately following the diastole.

7. (Original) A method as in claim 2, wherein introducing the volume of fluid comprises: inflating a balloon within the heart chamber during systole; deflating the balloon during diastole immediately following the systole; and releasing an amount of fluid within the heart chamber during the diastole.

8. (Original) A method as in claim 7, wherein the balloon is deflated by a volume equal to the amount of the released fluid.

9. (Original) A method as in claim 7, wherein the balloon is deflated by a volume greater than the amount of the released fluid.

10. (Original) A method as in claim 1, wherein causing the change comprises activating a hydrophone at least once during diastole.

11. (Original) A method as in claim 10, wherein activating comprises activating the hydrophone at a frequency of about 200 Hz.

12. (Original) A method as in claim 10, wherein activating comprises activating the hydrophone at a frequency of about 500 Hz.

13. (Original) A method as in claim 10, wherein activating comprises activating the hydrophone at a frequency of about 1000 Hz.

14. (Original) A method as in claim 1, wherein causing the change comprises inducing a paroxysmal ventricular contraction.

15. (Original) A method as in claim 14, wherein the paroxysmal ventricular contraction is induced by electrical stimulation.

16. (Original) A method as in claim 1, further comprising measuring the heart cycle using an electrocardiogram device, wherein the selected time during the heart cycle is selected using the electrocardiogram measurement.

17. (Original) A method as in claim 1, further comprising measuring the heart cycle using at least one sensor on a catheter positioned in the heart chamber, wherein the selected time during the heart cycle is selected using the sensor measurement.

18. (Original) A method as in claim 1, wherein the change in the cardiac characteristic is measured immediately after causing a change in at least one of volume and pressure.

19. (Original) A method as in claim 1, wherein the change in the cardiac characteristic is measured during at least a portion of the heart cycle after the change in at least one of the volume and pressure.

20. (Cancelled)

21. (Original) A method as in claim 1, wherein measuring the change comprises measuring a change in at least one pressure within the heart chamber.

22. (Original) A method as in claim 21, wherein measuring the change in pressure comprises measuring a change in end-diastolic pressure and a change in end-systolic pressure.

23. (Original) A method as in claim 22, wherein calculating the at least one parameter comprises calculating a cardiac pressure gain, comprising: calculating a first difference between a first end-systolic pressure and a second end-systolic pressure; calculating a second difference between a first end-diastolic pressure and a second end-diastolic pressure; and dividing the first difference by the second difference.

24. (Original) A method as in claim 23, further comprising providing at least one of the end-diastolic pressures, the end-systolic pressures and the cardiac pressure gain for display on a display device.

25. (Original) A method as in claim 24, wherein the providing step comprises providing data in the form of a plot, with at least one end-diastolic pressure on one axis of the plot and at least one end-systolic pressure on a perpendicular axis of the plot.

26. (Original) A method as in claim 21, wherein measuring the change comprises measuring a change in left ventricular end-diastolic pressure and a change in left ventricular end-systolic pressure.

27. (Original) A method as in claim 1, wherein measuring the change comprises measuring a change in at least one volume within the heart chamber.

28. (Original) A method as in claim 27, wherein measuring the change comprises measuring a change in end-diastolic volume and a change in end-systolic volume.

29. (Original) A method as in claim 28, wherein calculating the at least one parameter comprises calculating a volume reserve comprising: calculating a first difference between a first end-systolic volume and a second end-systolic volume;

calculating a second difference between a first end-diastolic volume and a second end-diastolic volume; and dividing the first difference by the second difference.

30. (Original) A method as in claim 29, further comprising providing at least one of the end-diastolic volumes, the end-systolic volumes and the volume reserve for display on a display device.

31. (Original) A method as in claim 30, wherein the providing step comprises providing data in the form of a plot, with at least one end-diastolic volume on one axis of the plot and at least one end-systolic volume on a perpendicular axis of the plot.

32. (Original) A method as in claim 28, wherein measuring the change comprises measuring a change in a left ventricular end-diastolic volume and a change in a left ventricular end-systolic volume.

33. (Original) A method as in claim 1, wherein measuring the change comprises measuring a change in at least one pressure and a change in at least one volume within the heart chamber.

34. (Original) A method as in claim 33, wherein measuring the change comprises measuring a change in end-diastolic volume and a change in end-diastolic pressure.

35. (Original) A method as in claim 34, further comprising providing pressure and volume data as a plot, with at least one volume on one axis of the plot and at least one volume on a perpendicular axis of the plot.

36. (Original) A method as in claim 34, wherein calculating the at least one parameter comprises calculating a lusitropic stiffness of the heart chamber, comprising:

calculating a first difference between a second end-diastolic pressure and a first end-diastolic pressure; calculating a second difference between a second end-diastolic volume and a first end-diastolic volume; and dividing the first difference by the second difference.

37. (Original) A method as in claim 36, further comprising providing at least one of the volumes, the pressures and the lusitropic stiffness for display on a display device.

38. (Original) A method as in claim 34, wherein calculating the at least one parameter comprises calculating a lusitropic compliance of the heart chamber, comprising: calculating a first difference between a second end-diastolic volume and a first end-diastolic volume; calculating a second difference between a second end-diastolic pressure and a first end-diastolic pressure; and dividing the first difference by the second difference.

39. (Original) A method as in claim 38, further comprising providing at least one of the volumes, the pressures and the lusitropic compliance for display on a display device.

40. (Original) A method as in claim 33, wherein measuring the change comprises measuring a change in end-systolic volume and a change in end-systolic pressure.

41. (Original) A method as in claim 40, further comprising providing volume and pressure data as a plot, with at least one volume on one axis of the plot and at least one volume on a perpendicular axis of the plot.

42. (Original) A method as in claim 40, wherein calculating the at least one parameter comprises calculating an inotropic stiffness of the heart chamber, comprising:

calculating a first difference between a second end-systolic pressure and a first end-systolic pressure; calculating a second difference between a second end-systolic volume and a first end-systolic volume; and dividing the first difference by the second difference.

43. (Original) A method as in claim 42, further comprising providing at least one of the volumes, the pressures and the inotropic stiffness for display on a display device.

44. (Original) A method as in claim 40, wherein calculating the at least one parameter comprises calculating an inotropic compliance of the heart chamber, comprising: calculating a first difference between a second end-systolic volume and a first end-systolic volume; calculating a second difference between a second end-systolic pressure and a first end-systolic pressure; and dividing the first difference by the second difference.

45. (Original) A method as in claim 44, further comprising providing at least one of the volumes, the pressures and the inotropic compliance for display on a display device.

46. (Original) A method as in claim 33, wherein the measuring and calculating steps comprise: continuously measuring a pressure and volume in the heart chamber during a heart cycle; calculating a first integral of the pressure as a function of volume as the volume increases due to expansion of the ventricle; calculating a second integral of the pressure as a function of volume as the volume decreases due to contraction of the ventricle; and calculating a myocardial work of the heart chamber by subtracting the second integral from the first integral.

47. (Original) A method as in claim 33, wherein the measuring and calculating steps comprise: continuously measuring a pressure and volume in the heart

chamber during a heart cycle; calculating a first integral of the product of the pressure and the volume as the volume increases due to expansion of the ventricle; calculating a second integral of the product of the pressure and the volume as the volume decreases due to contraction of the ventricle; and calculating a first moment of myocardial work of the heart chamber by subtracting the second integral from the first integral.

48. (Original) A method as in claim 46, further comprising: calculating a body surface are; and calculating a myocardial work index by dividing the myocardial work by the body surface area.

49. (Original) A method as in claim 46, further comprising: calculating a stroke ejection period by calculating the time when the velocity in the aorta begins to increase from zero to the time when the velocity in the aorta first returns to zero; and calculating a myocardial power by dividing the myocardial work by the stroke ejection period.

50. (Original) A method as in claim 49, further comprising calculating a body surface area; and calculating a myocardial power index by dividing myocardial power by body surface area.

51. (Original) A method as in claim 49, further comprising calculating a stroke volume; and calculating a myocardial power requirement parameter by dividing myocardial power by stroke volume.

52. (Original) A method as in claim 46, further comprising: calculating a first myocardial work for the first heart cycle; changing the end-diastolic volume and pressure; calculating a second myocardial work for a second heart cycle; measuring a first end-diastolic pressure for the first heart cycle and a second end-diastolic pressure for the second heart cycle; and calculating a myocardial reserve by dividing a difference

between the second and first myocardial works by a difference between the second and the first end-diastolic pressures.

53. (Original) A method as in claim 52, further comprising: calculating a body surface area; and calculating a myocardial reserve index by dividing the myocardial reserve by the body surface area.

54. (Original) A method as in claim 46, wherein the myocardial work is calculated for a left ventricle of a heart.

55. (Original) A method as in claim 46, wherein the myocardial work is calculated for a right ventricle of a heart.

56. (Original) A method as in claim 46, further comprising: calculating a first myocardial power for the first heart cycle; changing the end-diastolic volume and pressure; calculating a second myocardial power for a second heart cycle; measuring a first end-diastolic pressure for the first heart cycle and a second end-diastolic pressure for the second heart cycle; and calculating a myocardial power reserve by dividing a difference between the second and first myocardial powers by a difference between the second and the first end-diastolic pressures.

57. (Original) A method as in claim 56, further comprising: calculating a body surface area; and calculating a myocardial power reserve index by dividing the myocardial power reserve by the body surface area.

58. (Original) A method as in claim 1, further comprising: measuring a change in at least one flow rate of blood flowing out of the heart chamber which occurs in response to the volume and/or pressure change; and calculating at least one flow-related parameter of the heart chamber based on a ratio of the measured change in the flow rate to the volume and/or pressure change.

59. (Original) A method as in claim 58, wherein measuring the change in the flow rate comprises measuring at least one flow rate in an aorta.

60. (Original) A method as in claim 58, wherein measuring the change in the flow rate comprises measuring at least one flow rate in at least one pulmonary artery.

61. (Original) A method as in claim 58, wherein calculating the flow-related parameter comprises calculating at least one stroke volume of a heart from which the flow rate is measured, the method further comprising: estimating a cardiac output for the heart; measuring a rate of the heart; calculating a first ratio by dividing the estimated cardiac output by the heart rate; calculating a first integral of the flow rate over a number of heart cycles; calculating a second ratio by dividing the integral by the number of heart cycles; calculating a scaling factor by dividing the first ratio by the second ratio; calculating a second integral of the flow rate over a selected heart cycle; and calculating the stroke volume by multiplying the second integral by the scaling factor.

62. (Original) A method as in claim 61, further comprising: measuring a body surface area; and calculating a stroke volume index by dividing the stroke volume by the body surface area.

63. (Original) A method as in claim 61, wherein the cardiac output is estimated using at least one of Fick's method and a dilution method.

64. (Original) A method as in claim 61, further comprising determining a calculated cardiac output by dividing the stroke volume by a time of duration of one of the heart cycles.

65. (Original) A method as in claim 64, further comprising: measuring a body surface area; and calculating a cardiac index by dividing the calculated cardiac output by the body surface area.

66. (Original) A method as in claim 64, further comprising: determining a first calculated cardiac output and a second calculated cardiac output for first and second heart cycles; measuring first end-diastolic pressure and a second end-diastolic pressure for the first and second heart cycles; and calculating a cardiac reserve by dividing a difference between the second and first calculated cardiac outputs by a difference between the second and first end-diastolic pressures.

67. (Original) A method as in claim 66, further comprising: measuring a body surface area; and calculating a cardiac reserve index by dividing the calculated cardiac reserve by the body surface area.

68. (Original) A method as in claim 61, further comprising: calculating a first stroke volume and a second stroke volume for first and second cardiac cycles; measuring first end-diastolic pressure and a second end-diastolic pressure for the first and second heart cycles; and calculating a stroke reserve by dividing a difference between the second and first calculated stroke volumes by a difference between the second and first end-diastolic pressures.

69. (Original) A method as in claim 68, further comprising: measuring a body surface area; and calculating a stroke reserve index by dividing the calculated stroke reserve by the body surface area.

70. (Original) A method as in claim 61, further comprising: measuring an average systolic pressure in at least one outflow artery adjacent the heart; measuring an average diastolic pressure in the heart chamber; calculating a difference between

the average systolic pressure and the average diastolic pressure; and calculating a stroke work by multiplying the difference by the stroke volume.

71. (Original) A method as in claim 70, further comprising: measuring a body surface area; and calculating a stroke work index by dividing the calculated stroke work by the body surface area.

72. (Original) A method as in claim 70, further comprising: calculating a first stroke work and a second stroke work for first and second cardiac cycles; measuring first end-diastolic pressure and a second end-diastolic pressure for the first and second heart cycles; and calculating a stroke work reserve by dividing a difference between the second and first calculated stroke works by a difference between the second and first end-diastolic pressures.

73. (Original) A method as in claim 72, further comprising: measuring a body surface area; and calculating a stroke work reserve index by dividing the calculated stroke work reserve by the body surface area.

74. (Original) A method as in claim 70, wherein the at least one outflow artery comprises an aorta.

75. (Original) A method as in claim 70, wherein the at least one outflow artery comprises at least one pulmonary artery.

76. (Original) A method as in claims 46 and 70, further comprising calculating a cardiac efficiency by dividing the stroke work by the myocardial work.

77. (Original) A method as in claim 61, further comprising: calculating a first stroke volume and a second stroke volume for first and second cardiac cycles; measuring first end-diastolic volume and a second end-diastolic volume for the first and

second heart cycles; and calculating a cardiac amplification by dividing a difference between the second and first calculated stroke volumes by a difference between the second and first end-diastolic volumes.

78. (Original) A method as in claim 61, further comprising calculating a first difference between a second product of volume and pressure and a first product of volume and pressure, said second volume and pressure measured shortly after the first; calculating a determination of the incremental stroke volume which is the product of the scaling factor and the integral of the velocity in the proximal artery between the first and second times; calculating the period of time between the first measurement and the second; calculating a third product between the incremental stroke volume and the period of time; and calculating an ejection contractility parameter by dividing the first difference by the third product.

Claims 79 - 87 (Cancelled)

REMARKS

In view of the following remarks, the Examiner is requested to allow Claims 1-19 and 21-78, the only claims pending and under examination in this application after entry of the above amendments.

The specification has been amended to include serial numbers of the referenced applications in paragraph 1. In addition, replacement figures 1 to 11 are enclosed with this response. Finally, Claim 1 has been amended to incorporate the limitation of Claim 20, and Claim 20 has correspondingly been cancelled. As no new matter has been added by way of these amendments, entry thereof by the Examiner is respectfully requested.

As an initial matter, the Examiner is thanked for acknowledging the patentability of Claims 20, 46-57 and 61-78.

It is believed that the above amendment to the specification overcomes the issue with respect to paragraph 1 raised by the Examiner.

In addition, the enclosed replacement sheets of Figs. 1 to 11 address the issue with respect to the Drawings as raised by the Examiner.

Claim Rejections – 35 U.S.C. § 102

Claims 1-9, 14-19, 21-25 and 27-35 were rejected under 35 U.S.C. § 102(b) as being anticipated by Orth. Claim 1 has been amended to incorporate the elements of Claim 20, which the Examiner has found to be allowable. In view of this amendment, this rejection may be withdrawn.

Claim Rejections – 35 U.S.C. § 103

Claims 10-13, 58-60 and 78-87 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Orth in view of Sekins.

Claim 1 has been amended to incorporate the elements of Claim 20, which the Examiner has found to be allowable. Claims 10-13, 58-60 and 78-87 all ultimately depend from Claim 1. As such, this rejection may be withdrawn.

CONCLUSION

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number PRTS-041.

Respectfully submitted,

BOZICEVIC, FIELD & FRANCIS LLP

Date: September 20, 2006

By: _____
Bret E. Field
Registration No. 37,620

Encs:

- Replacement Sheets Figures 1 to 11
-

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